

HAZARDOUS MATERIALS FIRST RESPONDER OPERATIONS LEVEL



PRACTICAL SKILL SHEETS

INDIANA HOMELAND SECURITY
TRAINING INSTITUTE



**PRACTICAL SKILLS EXAMINATION
HAZMAT OPERATIONS**

State Form 52426 (10-05)

**Indiana Board of Firefighting Personnel Standards and Education
HAZMAT OPERATIONS
NFPA 472 2002 Edition**

**STATE OF INDIANA
JOB PERFORMANCE REQUIREMENT
SKILLS EVALUATION SYSTEM**

CANDIDATE: _____

EVALUATOR: _____

DATE: _____ **COURSE NUMBER:** _____

LOCATION: _____

OBJECTIVE:

The Job Performance Requirement Skills Evaluation System is divided into Skill Stations based upon the subject headings within the certification standard. Each of the skill stations are further broken down into Skills Tests which are drawn from each component of the standard. This is an "Evaluation and not a "Training Session". The candidate must satisfactorily pass each skill.

INSTRUCTORS AND EVALUATORS:

Each Skill Test presented within this Skill Packet is based upon Job Performance Requirements identified by The National Fire Protection Agency and approved by the Indiana Board of Firefighting Personnel Standards and Education. Instructor II/III whom, is serving as the Lead Instructor and/or Lead Evaluator are mandated to ensure the Evaluation and Testing Results satisfy the Job Performance Requirement as described by the standard.

CANDIDATES:

If the candidate is unable to perform a task, the Evaluator will identify the specific task as a "Recommended Area for Further Training." Each Candidate shall advise the Evaluator when they have completed each Skill Station. Candidates will not find out the results of an individual Skill Station until all evaluations scheduled for that day have been completed. Candidates have the option to retake any Skill Test at the end of the Evaluation Session or during a make-up session scheduled by the Instructor.

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Hazardous Materials Operations
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5.2 Competencies – Analyzing the Incident

JPR #1

5.2.1 Surveying the Hazardous Materials Incident

Standard Area: Competencies – Analyzing the Incident

Candidate: _____

Date: _____

SS#: _____

STANDARD: 5.2.1.3 NFPA 472, 2002 Edition		TASK: Given a pesticide label, identify each of the following pieces of information; then match the piece of information to its significance in surveying the hazardous materials incident.			
PERFORMANCE OUTCOME: The candidate will complete this task within 30 minutes with a minimum of 9 of the 12 items answered correctly.					
CONDITIONS: Whenever possible integrate the evaluation of this line item within a consolidated hazardous materials/emergency scenario. This will allow multiple line items to be evaluated effectively in conjunction with other hazardous materials/emergency scenario activities.					
EQUIPMENT REQUIRED: Pesticide label and NAERG. Full protective clothing and self contained breathing apparatus.					
No.	TASK STEPS	FIRST TEST		RETEST	
		Pass	Fail	Pass	Fail
1.	Identify the Product Name:				
2.	Significance of Product Name:				
3.	Identify Signal Word:				
4.	Significance of Signal Word:				
5.	Identify the Pest Control Product (PCP) number:				
6.	Significance of PCP number:				
7.	Identify Precautionary Statement:				
8.	Significance of Precautionary Statement:				
9.	Identify the Hazard Statement:				
10.	Significance of Hazard Statement:				
11.	Identify Active Ingredient:				
12.	Significance of Active Ingredient:				

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Lead Evaluator/Candidate Comments: _____

_____ Lead Evaluator <i>(Print & Sign)</i>	_____ Date	_____ Candidate	_____ Date
_____ Re-Test Lead Evaluator	_____ Date	_____ Re-Test Candidate	_____ Date

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5.2 Competencies – Analyzing the Incident

JPR #2

5.2.2 Collecting Hazard and Response Information

Standard Area: Competencies – Analyzing the Incident

Candidate: _____

Date: _____

SS#: _____

STANDARD: 5.2.2 NFPA 472, 2002 Edition	TASK: Given a material safety data sheet (<i>MSDS</i>) for a specified material, identify the following hazard and response information. (a) Physical and chemical characteristics (b) Physical hazards of the material (c) Health hazards of the material (d) Signs and symptoms of exposure (e) Routes of entry (f) Permissible exposure limits (g) Responsible party contact (h) Precaution for safe handling (<i>including hygiene practices, protective measures, procedures for cleanup of spills or leaks</i>) (i) Applicable control measures including personal protective equipment (j) Emergency and first aid procedures				
PERFORMANCE OUTCOME: The candidate will complete this task within 30 minutes with a minimum of 15 of the 30 items answered correctly.					
CONDITIONS: Whenever possible integrate the evaluation of this line item within a consolidated hazardous materials/emergency scenario. This will allow multiple line items to be evaluated effectively in conjunction with other hazardous materials/emergency scenario activities.					
EQUIPMENT REQUIRED: Materials safety data sheets (<i>MSDS</i>) for <u>Ethylene Oxide</u> . Full protective clothing and self contained breathing apparatus.					
No.	TASK STEPS	FIRST TEST		RETEST	
		Pass	Fail	Pass	Fail
1.	Physical and chemical characteristics:				
	a. Boiling point:				
	b. Specific gravity:				
	c. Appearance:				
	d. Odor				
2.	Physical hazards of the material:				
3.	Health hazards of the materials:				

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4.	Signs and symptoms of exposure:				
	a. Ingestion:				
	b. Inhalation:				
	c. Skin contact:				
	d. Eye contact:				
5.	Routes of entry:				
6.	Permissible exposure limits:				
	a. TWA:				
7.	Responsible party contact:				
8.	Precaution for safe handling:				
	a. Hygiene practices:				
	b. Protective measures and clean up of spills and leaks:				
9.	Applicable control measure including personal protective equipment:				
10.	Emergency and first aid procedures:				
	a. Ingestion:				
	b. Inhalation:				
	c. Skin contact:				
	d. Eye contact:				

Lead Evaluator/Candidate Comments: _____

Lead Evaluator *(Print & Sign)*

Date

Candidate

Date

Re-Test Lead Evaluator

Date

Re-Test Candidate

Date

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5.2 Competencies – Analyzing the Incident

JPR #3

5.2.1.4 Collecting Hazard and Response Information

Standard Area: Competencies – Analyzing the Incident

Candidate: _____

Date: _____

SS#: _____

STANDARD: 5.2.1.4, 5.2.3(1) NFPA 472, 2002 Edition		TASK: Given two examples of scenarios involving known hazardous materials, interpret the hazard and response information obtained from the current edition of the North American Emergency Response Guidebook, material safety data sheets (<i>MSDS</i>), CHEMTREC/CANUTIC/SETIG and shipper/manufacture contacts.			
PERFORMANCE OUTCOME: The candidate will complete this task within 30 minutes with a minimum of 14 of the 18 items answered correctly.					
CONDITIONS: Whenever possible integrate the evaluation of this line item within a consolidated hazardous materials/emergency scenario. This will allow multiple line items to be evaluated effectively in conjunction with other hazardous materials/emergency scenario activities.					
EQUIPMENT REQUIRED: Two scenarios, <i>MSDS</i> for <u>Ethylene Oxide</u> , NAERG, CHEMTREC/CANUTIC/SETIQ and shipper/manufacture information sheets. Full protective clothing and self contained breathing apparatus.					
No.	SCENARIO ONE (<i>FIRE AT A CHEMICAL PLANT</i>) TASK STEPS	FIRST TEST		RETEST	
		Pass	Fail	Pass	Fail
1.	Initiate incident management system according to authority having jurisdiction Make all notifications as defines in Local ERP or Department SOP's				
2.	Container behavior:				
	a. Ruptured cylinders may rocket				
	b. Containers may explode when heated				
3.	Material behavior:				
	a. Some materials may react with water				
	b. May form explosive mixtures with air				
	c. Upper Explosive Limit:				
	d. Lower Explosive Limit:				
	e. Boiling point				
	f. Vapor pressure				

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	SCENARIO TWO (SPILL/LEAK) TASK STEPS				
1.	Initiate incident management system according to authority having jurisdiction. Make all notifications as defines in Local ERP or Department SOP's				
2.	Control efforts:				
	a. Consider initial downwind area				
	b. All equipment must be grounded to prevent ignition of the material				
	c. Use water spray to reduce vapors or divert vapor cloud				
	d. Prevent entry into waterways, sewers, basements and confined spaces				
	e. Apply alcohol medium-expansion foam to reduce vapors				
	f. Avoid eye and skin contact				
	g. Turn container so that gas will escape not liquid if possible.				
3.	Water solubility: Complete				
4.	Vapor density: 1.5				
5.	Specific gravity: 0.8711				

Lead Evaluator/Candidate Comments: _____

_____ Lead Evaluator (<i>Print & Sign</i>)	_____ Date	_____ Candidate	_____ Date
_____ Re-Test Lead Evaluator	_____ Date	_____ Re-Test Candidate	_____ Date

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5.3 Competencies – Analyzing the Incident

JPR #4

5.3.4 Collecting Hazard and Response Information

Standard Area: Competencies – Analyzing the Incident

Candidate: _____

Date: _____

SS#: _____

STANDARD: 5.3.4 NFPA 472, 2002 Edition		TASK: Demonstrate the ability to perform emergency decontamination.			
PERFORMANCE OUTCOME: The candidate will successfully demonstrate each ability identified within this JPR.					
CONDITIONS: Whenever possible integrate the evaluation of this line item within a consolidated hazardous materials/emergency scenario. This will allow multiple line items to be evaluated effectively in conjunction with other hazardous materials/emergency scenario activities.					
EQUIPMENT REQUIRED: Personal protective equipment, self-contained breathing apparatus, water supply, hoses, brushes, containment area, product name and NAERG.					
NO.	TASK STEPS	FIRST TEST		RETEST	
		Pass	Fail	Pass	Fail
1.	Identify the contaminated person.				
2.	Remove contaminated person from threatened area				
3.	Wash Gross Contamination off person prior to removal of PPE				
4.	Remove contaminated person's helmet and flood with water				
5.	Remove contaminated person's SCBA leaving mask in place				
6.	Remove contaminated person's clothing while maintaining continuous washing				
	a. Remove coat				
	b. Remove pants				
	c. Remove flash hood				
	d. Remove SCBA mask				
7.	Remove victim to clean area				
8.	Inform medical personnel of contaminant				

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Lead Evaluator/Candidate Comments: _____

_____	_____	_____	_____
Lead Evaluator <i>(Print & Sign)</i>	Date	Candidate	Date
_____	_____	_____	_____
Re-Test Lead Evaluator	Date	Re-Test Candidate	Date

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5.4 Competencies – Implementing the Planned Response

JPR #5

5.4.3 Using Personal Protective Equipment

Standard Area: Competencies – Implementing the Planned Response

Candidate: _____

Date: _____

SS#: _____

STANDARD: 5.4.3(6)(8)(9) NFPA 472, 2002 Edition		TASK: Demonstrate donning, working in, and doffing positive pressure self-contained breathing apparatus..			
PERFORMANCE OUTCOME: The candidate will successfully demonstrate each ability identified within this JPR.					
CONDITIONS: Whenever possible integrate the evaluation of this line item within a consolidated hazardous materials/emergency scenario. This will allow multiple line items to be evaluated effectively in conjunction with other hazardous materials/emergency scenario activities.					
EQUIPMENT REQUIRED: Full protective clothing and self contained breathing apparatus.					
NO.	TASK STEPS	FIRST TEST		RETEST	
		Pass	Fail	Pass	Fail
	DONNING				
1.	Don pants and boots properly-including suspenders in place				
2.	Don protective hood				
3.	Don coat-including storm flap closed and collar up and secured				
4.	Don helmet				
5.	Don gloves				
6.	Don SCBA				
	a. Open cylinder valve fully				
	b. Secures straps on SCBA				
	c. Don face piece				
	d. Check face seal				
	e. Hook up air supply				
7.	Work in contaminated area				
8.	Control breathing				
9.	Exit hazard area				

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	DOFFING				
10.	Removes SCBA and place all equipment in a ready state for reuse				

Lead Evaluator/Candidate Comments: _____

_____	_____	_____	_____
Lead Evaluator <i>(Print & Sign)</i>	Date	Candidate	Date
_____	_____	_____	_____
Re-Test Lead Evaluator	Date	Re-Test Candidate	Date

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5.4 Competencies – Implementing the Planned Response

JPR #6

5.4.4.1 Performing Defensive Control Actions

Standard Area: Competencies – Implementing the Planned Response

Candidate: _____

Date: _____

SS#: _____

STANDARD: 5.4.4(1) NFPA 472, 2002 Edition		TASK: Using the type of fire-fighting foam or vapor suppressing agent and foam equipment furnished by the authority having jurisdiction, demonstrate the proper application of the fire-fighting foam(s) or vapor suppressing agent(s) on a spill or fire involving hazardous materials..			
PERFORMANCE OUTCOME: The candidate will successfully demonstrate each ability identified within this JPR.					
CONDITIONS: Whenever possible integrate the evaluation of this line item within a consolidated hazardous materials/emergency scenario. This will allow multiple line items to be evaluated effectively in conjunction with other hazardous materials/emergency scenario activities.					
EQUIPMENT REQUIRED: Fire –fighting foam, foam equipment, fire apparatus, hazardous liquid, and burn area. Full protective clothing and self contained breathing apparatus.					
No.	TASK STEPS	FIRST TEST		RETEST	
		Pass	Fail	Pass	Fail
1.	Approach the spill or fire from uphill and upwind				
2.	Set nozzle to correct pattern (<i>and GPM flow, if applicable</i>)				
3.	Use correct application procedures				
	a. Banked down				
	b. Roll on				
	c. Rain down				
4.	Did not disturb foam blanket				
5.	Exited hazardous area				

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Lead Evaluator/Candidate Comments: _____

_____ Lead Evaluator <i>(Print & Sign)</i>	_____ Date	_____ Candidate	_____ Date
_____ Re-Test Lead Evaluator	_____ Date	_____ Re-Test Candidate	_____ Date

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5.4 Competencies – Implementing the Planned Response

JPR #7

5.4.4 Performing Defensive Control Actions

Standard Area: Competencies – Implementing the Planned Response

Candidate: _____

Date: _____

SS#: _____

STANDARD: 5.4.4(3) NFPA 472, 2002 Edition	TASK: Given the appropriate tools and equipment, demonstrate how to perform the following defensive control activities: (a) Absorption (b) Damming (c) Diking (d) Dilution (e) Diversion (f) Retention (g) Vapor dispersion (h) Vapor suppression				
PERFORMANCE OUTCOME: The candidate will successfully demonstrate each ability identified within the checklist with at least 27 of the 32 items completed correctly..					
CONDITIONS: Whenever possible integrate the evaluation of this line item within a consolidated hazardous materials/emergency scenario. This will allow multiple line items to be evaluated effectively in conjunction with other hazardous materials/emergency scenario activities.					
EQUIPMENT REQUIRED: Personal protective equipment, self-contained breathing apparatus, shovels, rakes, absorbent materials, dirt, sand or hay, plastic sheeting, foam or vapor suppression agents, foam generating equipment, and a leaking container.					
No.	TASK STEPS	FIRST TEST		RETEST	
		Pass	Fail	Pass	Fail
1.	Absorption:				
	a. Use common, available materials				
	b. Avoid contact with hazardous material				
	c. Ensure drains do not become contaminated				
	d. Ensure hazardous material is absorbed into the absorbed into absorbent material				
2.	Damming:				
	a. Use common, available materials				
	b. Avoid contact with hazardous material				
	c. Ensure dam is not breached				

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3.	Diking:				
	a. Use common, available materials				
	b. Avoid contact with hazardous material				
	c. Form a “v” and a “circle” dike				
	e. Ensure hazardous material does not enter drains or manholes				
4.	Dilution:				
	a. Use common, available materials				
	b. Avoid contact with hazardous material				
	c. Ensure hazardous material is water soluble				
	d. Do NOT overflow retention pond of hazardous material				
5.	Diversion:				
	a. Use common, available materials				
	b. Avoid contact with hazardous material				
	c. Ensure hazardous material is diverted away from drains and waterways				
	d. Make sure the hazardous material does NOT breach diversion				
6.	Retention.				
	a. Define purpose of retention				
	b. Use common, available materials				
	c. Avoid contact with hazardous material				
	d. Ensure product flow does not exceed retention area				
7.	Vapor Dispersion:				
	a. Avoid contact with hazardous material				
	b. Eliminate ignition sources, if applicable				
	c. Use water spray or fans to control dispersion				
	d. Move vapors away from threatened area				

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8.	Vapor Suppression:				
	a. Avoid contact with hazardous materials				
	b. Approach the spill or fire from uphill and upwind				
	c. Set nozzle to correct pattern (<i>and GPM flow, if applicable</i>)				
	d. Use correct application procedures				
	(1) Banked down				
	(2) Roll on				
	(3) Run down				
	e. Did NOT disturb foam blanket				
	f. Exited hazardous area				

Lead Evaluator/Candidate Comments: _____

Lead Evaluator (*Print & Sign*)

Date

Candidate

Date

Re-Test Lead Evaluator

Date

Re-Test Candidate

Date